

Question	Answer	Mark	Level
1 a	800 N	1	5
b	Move forwards.	1	5
2 a	Priya	1	6
b	8000 m/3600 s = 2.22 m/s <i>One mark for working, one mark for correct answer including units.</i>	2	6
3 a	4 m/s	1	6
b	0 to 4 s	1	6
c	It reduces the air resistance force <i>or</i> it gives them less surface area.	1	7
4 a	2 N	1	6
b	The speed increases.	1	6
c i	It speeds up more quickly.	1	7
ii	The downward force (weight) is less so there is a greater resultant force upwards.	1	7
5 a i	R increases.	1	5
ii	As the speed increases, the parachutist displaces more air molecules per second (so force R increases).	1	6
iii	The speed is constant.	1	5
b i	R increases (a lot).	1	5
ii	R is bigger than W <i>or</i> R is a bigger force up than force W is down.	1	7
iii	As the speed decreases, R gets smaller.	1	7*
iv	Slower constant speed.	1	7*
6 a	It would be difficult to operate the stopwatch quickly enough.	1	6
b	It would be difficult to judge the distance accurately.	1	6
c	The datalogger.	1	6
7 a	180 seconds.	1	7
b	From 60 m/s to 5 m/s.	1	7

Scores in the range of:	NC Level
6–10	5
11–15	6
16–18	7
19–25	7*